INSTALLATION GUIDE

PagePerfect™
By IMSI

PagePerfect™

Installation Guide

November 1987

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Introduction

Welcome to PagePerfect!

This guide will help you install PagePerfect on your computer as quickly and easily as possible.

CONTENTS CHECKLIST

The version of PagePerfect you purchased contains the following items:

- **PagePerfect Installation Guide**—helps you install PagePerfect.
- **PagePerfect Tutorial**—walks you through the basics of PagePerfect.
- **PagePerfect Reference Manual**—describes the whole PagePerfect system.
- **PagePerfect Quick Reference Card**—describes (in brief) all of PagePerfect's common commands.

- **PagePerfect System Map**—a graphical description of the PagePerfect system.
- **PagePerfect Keyboard Templates**—two for the standard AT keyboard (one for the function keys and one for the keypad) and one large template for enhanced keyboards.
- **PagePerfect Warranty Card**—upon receipt by IMSI, establishes you as an authorized PagePerfect user with access to Customer Support representatives.
- **PagePerfect Extended Support Plan Application**—allows you to purchase telephone support beyond the 45 days included in the purchase price of PagePerfect.
- **PagePerfect Installation Diskettes**—contain all the software necessary to install PagePerfect on your computer's hard disk.

Please verify that your copy of PagePerfect has all of these items. If any are missing, contact your dealer.

THE WARRANTY CARD

It is necessary to fill out and mail the warranty card to us. This will allow us to keep you informed about new releases and additions to PagePerfect as they become available. More importantly, it allows you to receive telephone support. Free telephone support terminates 45 days after the receipt of the first telephone call, or six months after purchasing PagePerfect, whichever comes first. Additional telephone support is available beyond the initial 45 days through our Extended Support Plan.

Configuring the Hardware

Before continuing with the installation, please verify that you have the correct equipment. PagePerfect has been tested and approved for use with specific hardware configurations.

Note *This information is presented as an aid to the user configuring their system. It is the result of the many tests we have performed to verify that PagePerfect works with the many different hardware configurations. Information contained here is accurate to the best of our knowledge.*

Newer versions of both hardware and software discussed in this manual may be available. Discussions of hardware not officially supported by IMSI (as stated on the outside of the PagePerfect package) may also appear in this document. THIS INFORMATION IS PROVIDED TO ASSIST YOU IN CONFIGURING HARDWARE (AT YOUR OWN RISK) THAT IS NOT EXPLICITLY SUPPORTED BY IMSI. IMSI takes no responsibility for any problems encountered

using any hardware or software, whether discussed in this manual or not.

SUPPORTED HARDWARE

Computers

- IBM PC-AT (6 or 8 MHz)
- IBM PS/2 Model 60
- Compaq Deskpro (6, 8, 10, 12 MHz)

All computers must have at least 640K of RAM.

Disk Drives

- Hard Disk (20 MB minimum)

AND

- 5 1/4" 1.2 MB Floppy Disk

OR

- 3 1/2" 1.44 MB Floppy Disk

Displays

- IBM EGA (128K minimum)
- IBM PS/2 VGA
- Paradise EGA
- Vega Deluxe

Operating System

- MS-DOS 3.0 or later

Printers

- Tall Tree System's JLaser AT3, AT4, or SA (SA requires an Intel AboveBoard or AST RAMPage 286 with 2MB of RAM). "Plus" (scanner) versions of these boards are also supported.
- Hewlett Packard LaserJet Plus with 512K of RAM
- Hewlett Packard LaserJet Series II
- Epson 24 pin (LQ-800, LQ-850, LQ-1000, LQ-1050, LQ-1500, LQ-2500, SQ-2000)

Mice

- IMSI Optimouse (serial)
- Microsoft Mouse (Bus or serial)
- Logitech Mouse (serial)
- Mouse Systems Mouse (serial)

Scanners

- Canon IX-12 (with JLaser Plus or the Canon scanner board)
- Ricoh IS-30 (with Ricoh scanner board)
- Microtek MS-300A (with Microtek scanner board)

Example of a Complete Configuration

A complete system might include:

- An 8 MHz IBM PC-AT Computer with 640K of RAM and a serial/parallel card.
- A Vega EGA video card.
- An NEC Multisync monitor.
- One 30 MB hard disk Drive.
- One 1.2 MB floppy disk drive.
- An HP LaserJet Series II printer (using the parallel port).
- An IMSI Optimouse (using the serial port).
- A Canon IX-12 Scanner (using the Canon scanner board).

Example of a Minimum Configuration

A minimum system might include:

- An 8 MHz PC-AT Computer with 640K of RAM.
- An IBM EGA video board (with at least 128K of memory).
- An IBM EGA monitor.
- One 20 MB hard disk drive.
- One 1.2 MB floppy disk drive.

This configuration is the minimum hardware configuration under which PagePerfect will run. Because this configuration does not have a printer, this type of configuration would have to be a "satellite station" in an office that has at least

one other computer system (a printing station) with a PagePerfect-compatible printer attached. Documents created on the satellite station would be transferred to the printing station via floppy disk, where they could then be printed.

Each of these pieces of hardware come with its own set of installation instructions. Following the instructions that comes with the hardware, you should install and test each piece of hardware.

TIPS FOR HARDWARE CONFIGURATION

During our own testing of the different hardware configurations, we discovered many tips that may help you get your system up and running as soon as possible.

These tips make reference to the CONFIG.SYS and AUTOEXEC.BAT files, which may be present on your hard disk. If you are unfamiliar with these files and what they are used for, please read Appendix A prior to reading this section.

General Tips

PagePerfect is a memory-intensive program which requires at least 640K of RAM. For this reason, it will NOT run in conjunction with ANY RAM-resident software such as SideKick™, SuperKey™, or Microsoft Windows™.

PagePerfect does not have trouble running on computers with high-speed clock rates (such as 10, 12, or 16 MHZ machines). However, the same cannot be said for many expansion boards (especially if your computer runs the expansion bus at speeds greater than 8 MHZ), such as scanner boards or certain versions of Tall Tree System's JLaser board. Contact the expansion board manufacturer

regarding the compatibility of their expansion board with high speed computers (especially when the bus is run at speeds greater than 8 MHZ).

IBM PC-AT

In its base configuration, the IBM PC-AT comes with only 512K of main memory. In order to run reliably, an additional 128K of memory must be installed (via a memory expansion card) in order to run PagePerfect. Memory expansion cards are available from many different manufacturers, configured with many different additional hardware options such as additional serial and parallel ports. Also, many Lotus/Intel/Microsoft Enhanced Memory Specification (referred to as LIM EMS) boards are available which provide both the additional 128K of memory needed by PagePerfect while supplying varying amounts of EMS memory. Many software packages (including Pageperfect) utilize EMS memory, if it is available. When upgrading from 512K to 640K, you should consider purchasing a memory board which will provide EMS memory.

IBM PS/2

Currently, Tall Tree, Canon, Ricoh, and Microtek do not yet have scanner interface boards that work with the IBM PS/2 line of computers that use the new IBM Micro Channel Architecture (MCA). For this reason, the IBM PS/2 version of PagePerfect does not support scanning. When interface boards become available, PagePerfect will be updated to support them.

In addition, since Tall Tree does not yet have a version of its JLaser printer interface board available for the PS/2, PS/2 owners will not be able to use this high-speed printing device.

For these reasons, the scanner menu is not displayed while running INSTALL on a PS/2, and only the Epson and Hewlett Packard printers are supported.

Compaq Deskpro 286

The Compaq Deskpro 286 series of computers are capable of running at speeds of 6, 8, 10, and 12 MHZ depending on the revision of the motherboard used. Irrespective of the clock speed of the CPU, however, the Compaq computers always run their expansion bus at 8 MHZ in order to maintain compatibility with expansion boards. For this reason, the Compaq Deskpro runs reliably with most expansion boards.

The Tall Tree System's JLaser printer interface is an exception to this rule. If your Compaq Deskpro is only a 6 to 8 MHZ version, JLaser AT3 Plus will work correctly. However, Tall Tree's JLaser board is *not only* expansion bus speed dependent; it is also CPU speed dependent (this is due to the fact that JLaser uses DMA data transfer, a CPU speed-dependent operation). For this reason, if you intend to use JLaser with PagePerfect, and your Compaq runs at 12 MHZ, you must purchase either a JLaser AT4 or a JLaser SA (which requires either an INTEL AboveBoard or an AST RAMPage 286 EMS Board). These JLaser boards are not CPU-speed dependent, and will, therefore, work correctly with the Compaq Deskpro at 12 MHZ. See the sections on the JLaser AT3, AT4, and SA for information regarding switch settings and required entries in the CONFIG.SYS file (for more information on the CONFIG.SYS file, see Appendix A).

Tall Tree System's JLaser AT3 Plus & AT4 Plus

Note *It is in your interest to read this section* carefully *and* completely *prior to installing your JLaser board for*

use with PagePerfect. Skimming over this information can cause you unnecessary difficulty. Microsoft Bus Mouse owners should take note of some special JLaser installation requirements.

Because of the complexity of these boards, configuring them to work with scanner boards from Canon, Ricoh, and Microtek is not an easy task. In some cases, there may be hardware conflicts which cannot be resolved. For this reason, if you wish to print using the JLaser interface, it is suggested that you purchase and use the "Plus" version of these cards. The "Plus" designation indicates support for high-speed scanning using the Canon IX-12 Scanner. Using JLaser to both print *and* scan resolves any possible conflict between JLaser and other scanner boards.

The Tall Tree JLaser boards are very flexible boards with many possible switch settings which are dependent upon many things, principally having to do with the amount of memory you have on the motherboard of your computer.

As stated in the Tips section on the Compaq Deskpro, the 12 MHZ version of the Deskpro requires that you use a JLaser AT4 Plus. The JLaser AT4 Plus has two switch banks, U1 (which has 8 switches) and U97 (which has 6 switches on it). The following tables show how the switches should be set:

Switch Bank U1		**Switch Bank U97**	
1	OFF	1	OFF
2	ON	2	OFF
3	ON	3	ON
4	ON	4	ON
5	ON	5	OFF
6	ON	6	OFF
7	ON	8	ON

For more information regarding switch settings and their effect, see the manual that Tall Tree supplies with the JLaser AT4 Plus.

If you are installing a JLaser AT3 Plus in an IBM PC-AT with 512K of motherboard memory, you will probably want to have JLaser AT3 supply 128K of conventional memory so that you have 640K of conventional memory available in which to run programs. On the JLaser AT3 Plus, there are three switch banks which are numbered U75, U117, and U1. Switch bank U75 has ten switches on it, switch bank U117 has 6 switches, and Switch bank U1 has 8 switches. The following tables show how the switches should be set:

Switch Bank U75

1	OFF
2	ON
3	OFF
4	OFF
5	OFF
6	OFF
7	ON
8	OFF
9	OFF
10	OFF

Switch Bank U1

1	OFF
2	ON
3	ON
4	ON
5	ON
6	ON
7	ON
8	ON

Switch Bank U117

1	ON
2	OFF
3	OFF
4	OFF
5	ON
6	OFF

Note *If you'll be using a Microsoft bus mouse, you'll need to make a change involving shunt P6. A shunt on the*

JLaser AT3 Plus board is three pins, with a small black plastic and metal attachment that connects two of the three pins together. As shipped by Tall Tree, the plastic attachment connects pins 1 and 2 of shunt P6. You must resolve a hardware conflict between JLaser and the bus mouse by changing the shunt P6 to connect pins 2 and 3. When you change this shunt, you must have the A=640 option specified in the JLaser entry that you place in your CONFIG.SYS file. ***Failure to match the setting of the JLaser shunt P6 with the A=640 option could cause the contents of your hard disk to be destroyed.*** *The problem is most likely to occur when memory-resident disk-caching software (such as Turbo Lightning™ from Personal Computer Support Group) while having shunt P6 moved without the A=640 option.*

For more information regarding shunts, switch settings, their effect, and where the switches and shunts are located on the JLaser AT3 board, see the manual that Tall Tree supplies with the JLaser AT3 Plus.

If you have already installed either JLaser AT3 or AT4, you probably have already placed certain entries in your CONFIG.SYS file. If you have no entries in your CONFIG.SYS regarding the JLaser, your JLaser board will not be activated. In any event, in order for PagePerfect to work with JLaser, the following two entries must be present for the JLaser AT3:

```
DEVICE=C:\JBOOT.BIN /-C -M Q Z

DEVICE=C:\JLASER3.BIN /G H=0 V=0
```

Note *If you changed shunt P6 to connect pins 2 and 3 (rather than the default setting that connects pins 1 and 2), you must specify A=640 on the JLASER3.BIN line:*

```
DEVICE=C:\JBOOT.BIN /-C -M Q Z

DEVICE=C:\JLASER3.BIN /A=640 G H=0 V=0
```

In the case of the JLaser AT4, the entries are:

```
DEVICE=C:\JBOOT404.BIN

DEVICE=C:\JLAS366.BIN
```

Next, you must copy the two device drivers which these entries reference (either JBOOT.BIN and JLASER3.BIN or JBOOT404.BIN and JLAS366.BIN). Use the DOS command COPY to copy these two files from the Tall Tree floppy diskette to the root directory ("C:\") of your hard disk. When running INSTALL, you should choose option 1, Tall Tree System's JLaser, from the printer menu. This will activate the JLaser printer interface for the AT3 or AT4.

Tall Tree System's JLaser SA Plus

This board requires that you have a Lotus/Intel/Microsoft Expanded Memory board with at least 1.5 MB of RAM installed. Boards such as these include the Intel AboveBoard/AT and AST RAMPage 286. Both of these boards come with configuration and installation software which will assist you in installing these boards in your computer.

The Tall Tree JLaser SA board is a half-length card with a single 8-switch switch bank that is located in the upper left hand corner of the board. The switch bank is numbered U1, and should be set up as follows:

Switch Bank U1

1	OFF
2	ON
3	ON
4	ON
5	ON
6	ON
7	ON
8	ON

This setting is valid for installation in both the Compaq Deskpro and IBM PC-AT. Once you verify the settings of switch block U1, you may place the JLaser SA in any open expansion slot of your computer (see the JLaser SA manual for more information).

IBM PC-AT with JLaser SA

If you are using an Intel AboveBoard/AT with your PC-AT, you will probably be using it to supply 128K of additional conventional memory (so that you have 640K to run your programs in), and up to 1920K of EMS memory. JLaser SA requires that at least 1024K of EMS memory is available, and 1920K is recommended. The following information applies to IBM PC-ATs with 512K of motherboard memory, and an AboveBoard/AT with 2048K of memory installed.

The Intel AboveBoard/AT features switchless installation that is achieved through Intel SETBOARD program. You need to run this program using the "Technical Setup" option, which is selected at the first multiple-option menu displayed while running the SETBOARD program.

- First option for you to select is the I/O address used by the AboveBoard. The installation software defaults to I/O address "258H," which works without modification

(other I/O addresses may also work—if your computer system has a board that already uses I/O address 258H, you should choose a different I/O address).

- Second option you should select is to "Fill From 512K to 640K" (this causes the Intel AboveBoard/AT to supply 128K of conventional memory so that 640K is available for programs).
- The third option you should select is to "Supply No Extended Memory."
- The fourth option you should select is "6 to 8 MHZ 80286-based Computer."
- The fifth option you should select depends upon the type of memory you installed on your AboveBoard/AT, "150 nanosecond" or "120 nanosecond" memory.
- The last menu displayed asks you if you wish to set up the AboveBoard/AT as shown. If you have answered all questions correctly, select the "Setup As Shown" option.

Next, run Intel's INSTALL program. Running this program makes the entry in your CONFIG.SYS that will activate the AboveBoard/AT by inserting the necessary command in your CONFIG.SYS file, as well as installing software for RAM-disks and Printer Buffers. Unfortunately, since JLaser SA requires at least 1024K of memory to print letter-sized pages and around 1300K for legal-sized pages, the amount of memory you can set aside for RAM-disks and non-JLaser Printer Buffer memory is limited. For this reason, use of RAM-disks and non-JLaser Printer Buffers is not recommended. If they are used, the amount of memory they use should not exceed 512K of Intel AboveBoard/AT memory.

Once Intel's install program is finished, it reboots your computer. Intel's install programs makes the following entry in your CONFIG.SYS file:

```
DEVICE=EMM.SYS M5 I5
```

There may also be the letter "D" at the end of this entry, which is acceptable. However, the value of the M entry MUST be 5. Other M-values will cause JLaser SA to malfunction, because JLaser SA expects the M-value to be 5.

Next, you manually insert an entry in your CONFIG.SYS file to activate the JLaser SA (for more information on how to insert lines in your CONFIG.SYS, see Appendix A). The following entry *must* be the entry *immediately following* the line placed in your CONFIG.SYS inserted by Intel's install:

```
DEVICE=JLAS340.BIN /H=0 V=0
```

You need to copy the JLAS340.BIN file from the diskette supplied by Tall Tree with the JLaser SA to the root directory of your hard disk. Place that diskette in drive A, and, from the root directory of your hard disk, type:

```
C:\>copy a:jlas340.bin c:\
```

and press Enter. This copies the device driver from the diskette in drive A to the hard disk so that it can be found by DOS. Now reboot your computer. Installation of your JLaser SA and Intel AboveBoard/AT is now complete.

If you are using an AST RAMPage 286 with your PC-AT, you will probably be using it to supply 128K of additional conventional memory (so that you have 640K to run your programs in), and up to 1920K of EMS memory. JLaser SA requires that at least 1024K of EMS memory is available, and 1920K is recommended. The following information applies

to IBM PC-ATs with 512K of motherboard memory with an RAMPage 286 with 2048K of memory installed.

As shipped, the default settings of the switches for the AST RAMPage 286 will work with an IBM PC-AT with 512K of motherboard memory. You may install the RAMPage 286 without any changes to the switch settings. Please refer to your AST RAMPage 286 manual for more information regarding other types of installation.

In order to activate the AST RAMPage 286, you need to run AST's install program. It allows you to install the EMS device driver, REMM.SYS, and have it copied over to your hard disk. AST's install program also lets you install other devices, like RAM-disks. However, since JLaser SA requires 1024K to print on letter-size paper, and around 1300K to print on legal-size paper, use of these devices is not recommended. However, these utilities can be used if they take up no more than 512K of the 2048K of AST RAMPage 286 memory. The entry that should be placed in your CONFIG.SYS file (if you elect to configure all 2048K of AST RAMPage 286 memory as EMS) is:

```
DEVICE=REMM.SYS /X=E000-EFFF /X=A000-AFFF
```

This entry, however, must be modified before the AST RAMPage 286 memory will work with JLaser SA (for more information regarding how to alter entries in your CONFIG.SYS file, please see Appendix A). Add the following:

```
DEVICE=REMM.SYS  /X=E000-EFFF  /X=A000-AFFF /S=D000
```

This installs the device driver REMM.SYS to use memory addresses D0000 through DFFFF, which is where the JLaser SA board will look for the EMS memory that it needs for printing. When making this change to the entry placed by AST's install program in the CONFIG.SYS file, you must also add the another line to activate your JLaser SA board. The

following entry *must* be the entry *immediately following* the line placed in your CONFIG.SYS by AST's install program:

```
DEVICE=JLAS340.BIN /H=0 V=0
```

You need to copy the JLAS340.BIN file from the diskette supplied by Tall Tree with the JLaser SA to the root directory of your hard disk. Place that diskette in drive A, and, from the root directory of your hard disk, enter:

```
C:\>copy a:jlas340.bin c:\
```

This copies the device driver over to the hard disk so that it can be found by DOS. You should now reboot your computer. Installation of your JLaser SA and AST RAMPage 286 is now complete.

Compaq Deskpro 286 with JLaser SA

If you are using an Intel AboveBoard/AT with your Compaq Deskpro 286, you will probably be using it to supply 2048K of EMS memory. JLaser SA requires that at least 1024K of EMS memory is available, and 2048K is recommended. The following information applies to Compaq Deskpro 286's with 640K of motherboard memory and an AboveBoard/AT with 2048K of memory installed.

The Intel AboveBoard/AT features switchless installation that is achieved through Intel SETBOARD program. You need to run this program using the "Technical Setup" option, which can be selected at the first multiple-option menu displayed while running the SETBOARD program.

- The first option you should select is the I/O address used by the AboveBoard. The installation software defaults to I/O address "258H," which works without modification (other I/O addresses may also work—if your computer system has a board that already uses I/O

address 258H, you should choose a different I/O address).

- The second option you should select is to "Supply No Conventional Memory," since the Compaq Deskpro, with 640K of conventional memory, has as much conventional memory as DOS can recognize.
- The third option you should select is to "Supply No Extended Memory."
- The fourth option you should select is "6 to 8 MHZ 80286-based Computer."
- The fifth option you should select depends upon the type of memory you installed on your AboveBoard/AT, "150 nanosecond" or "120 nanosecond" memory.
- The last menu displayed asks you if you wish to set up the AboveBoard/AT as shown. If you have answered all questions correctly, select the "Setup As Shown" option.

Next, you need to run Intel's install program. Running this program makes the entries in your CONFIG.SYS that activates the AboveBoard/AT, as well as install software for RAM-disks and Printer Buffers. Unfortunately, since JLaser requires at least 1024K of memory to print letter-sized pages and around 1300K for legal-sized pages, the amount of memory you can set aside for RAM-disks and non-JLaser Printer Buffer memory is limited. For this reason, use of RAM-disks and non-JLaser printer buffers is not recommended. If they are used, they amount of memory they use should not exceed 512K of Intel AboveBoard/AT memory.

Once Intel's install program is finished, it reboots your computer. Intel's install program makes the following entry in your CONFIG.SYS file:

```
DEVICE=EMM.SYS M5 I5
```

There may also be the letter "D" at the end of this entry, which is acceptable. However, the value of the M entry MUST be 5. Other M-values cause JLaser SA to malfunction, because JLaser SA expects the M-value to be 5.

Next, you manually insert an entry in your CONFIG.SYS file to activate the JLaser SA (for more information on how to insert lines in your CONFIG.SYS, see Appendix A). The following entry *must* be the entry *immediately following* the line placed in your CONFIG.SYS inserted by Intel's install:

```
DEVICE=JLAS340.BIN /H=0 V=0
```

You need to copy the JLAS340.BIN file from the diskette supplied by Tall Tree with the JLaser SA to the root directory of your hard disk. Place that diskette in drive A, and, from the root directory of your hard disk, enter:

```
C:\>copy a:jlas340.bin c:\
```

This copies the device driver over to the hard disk so that it can be found by DOS. Now reboot your computer. Installation of your JLaser SA and Intel AboveBoard/AT is now complete.

If you are using an AST RAMPage 286 with your Compaq Deskpro 286, you will probably be using it to supply 2048K of EMS memory. JLaser SA requires that at least 1024K of EMS memory is available, and 2048K is recommended. The following information applies to Compaq Deskpro 286 with 640K of motherboard memory with an RAMPage 286 with 2048K of memory installed.

As shipped, the default settings of the switches for the AST RAMPage 286 WILL NOT work correctly. There are two switch banks on the top of the AST RAMPage 286 that are

labeled SW1 and SW2. SW1 has 10 switches, and SW2 has 8 switches. The following table shows how the switches should be set:

Switch Bank SW1		Switch Bank SW2	
1	OFF	1	ON
2	OFF	2	ON
3	OFF	3	ON
4	OFF	4	ON
5	OFF	5	ON
6	OFF	6	OFF
7	OFF	7	ON
8	ON	8	ON
9	ON		
10	ON		

This configures the AST RAMPage to supply no conventional memory (since the Compaq Deskpro 286 supplies 640K of conventional memory, which is all DOS can recognize), and 2048K of EMS memory. Please refer to your AST RAMPage 286 manual for more information regarding other types of installation.

In order to activate the AST RAMPage 286, you need to run AST's install program. It allows you to install the EMS device driver, REMM.SYS, and have it copied over to your hard disk. AST's install program also lets you install other devices, like RAM-disks. However, since JLaser SA requires 1024K to print on letter-size paper, and around 1300K to print on legal-size paper, use of these devices is not recommended. However, these utilities can be used if they take up no more than around 512K of the 2048K of AST RAMPage 286 memory. The entry that is placed in your CONFIG.SYS file (if you elect to configure all 2048K of AST RAMPage 286 memory as EMS) is:

```
DEVICE=REMM.SYS /X=E000-EFFF /X=A000-AFFF
```

This entry, however, must be modified before the AST RAMPage 286 memory works with JLaser SA (for more information regarding how to alter entries in your CONFIG.SYS file, please see Appendix A). Add the following:

```
DEVICE=REMM.SYS /X=E000-EFFF /X=A000-AFFF /S=D000
```

This installs the device driver REMM.SYS to use memory addresses D0000 through DFFFF, which is where the JLaser SA board looks for the EMS memory that it needs for printing. When making this entry in your CONFIG.SYS file, you must also add the another line to activate your JLaser SA board. The following entry *must* be the entry *immediately following* the line placed in your CONFIG.SYS file by AST's install program:

```
DEVICE=JLAS340.BIN /H=0 V=0
```

You need to copy the JLAS340.BIN file from the diskette supplied by Tall Tree with the JLaser SA to the root directory of your hard disk. Place that diskette in drive A, and, from the root directory of your hard disk, enter:

```
C:\>copy a:jlas340.bin c:\
```

This copies the device driver over to the hard disk so that it can be found by DOS. You should now reboot your computer. Installation of your JLaser SA and AST RAMPage 286 is now complete.

Hewlett-Packard LaserJet Plus & Series II Printers

Fundamentally, both of these printers are treated the same way by PagePerfect. The only difference in the way they are treated is based upon how much memory they have

installed. In the case of the LaserJet Plus, the base memory configuration is 256K, which does not provide enough memory to print full letter-sized page of text and graphics at 150 DPI. For this reason, PagePerfect requires a LaserJet Plus with at least 512K of printer memory. Upgrades from 256K to 512K are available from your printer dealer. With a 512K LaserJet Plus or the base model of the LaserJet Series II, you will be able to print full pages at 150 DPI on letter, legal, and A4 (European) paper sizes.

In order to print at 300 DPI on all paper sizes, PagePerfect requires an LaserJet Series II with a 1 MB memory expansion card. If you are using a LaserJet Plus printer with 512K or a LaserJet Series II with 512K, select option 2 from printer menu in INSTALL; if you are using a LaserJet Series II with a 1 MB memory expansion board, select option 3.

24-pin Printers: Epson, Toshiba, and NEC

These families of printers come in many sizes, and each family has slightly different feature sets. PagePerfect treats them identically, using their 180 DPI (dots per inch) graphics mode. The only significant option is the port you use with these printers—LPT1, LPT2, COM1, or COM2. Most all computers have at least one parallel port LPT1. This is the best port to use, since it provides the best performance. Some computers have two parallel ports. If you are already using LPT1 for some other hardware device, PagePerfect works with LPT2. PagePerfect also works with the serial ports, COM1 or COM2, but these configurations are generally more difficult to set up and are generally not as fast. Refer to printer and DOS manuals for more information on how to set up your printer to work with these ports (you'll use the DOS MODE command, which sets up the serial port communication parameters).

These printers are capable of using single sheet or tractor-fed fan-fold paper. In using PagePerfect, you can select from three paper sizes: letter, legal, and A4 (European). PagePerfect cannot check what kind of paper you may have on your printer. If you select legal or A4 paper sizes but have fan-fold letter-sized paper in the printer, the pages printed by PagePerfect print over the perforation.

Canon Scanner Model IX-12
(using JLaser AT3 Plus or SA Plus boards)

Tall Tree's printer interfaces with the word "Plus" in their names can also provide high-speed scanning operations. PagePerfect supports scanning through the JLaser Plus with the Canon scanner.

Note *If you'll be using a JLaser AT3 Plus and a Microsoft Bus Mouse, you must resolve a hardware conflict between JLaser and the bus mouse by changing the shunt P6 to connect pins 2 and 3. When you change this shunt, you must have the A=640 option specified in the JLaser entry that you place in your CONFIG.SYS file. Failure to match the setting of the JLaser shunt P6 with the A=640 option could cause the contents of your hard disk to be destroyed. The problem is most likely to occur when memory-resident disk-caching software (such as Turbo Lightning™ from Personal Computer Support Group) while having shunt P6 moved without the A=640 option.*

In order to activate scanning and printing with these devices, you must make the following entries in your CONFIG.SYS file:

```
DEVICE=C:\JBOOT.BIN /-C -M Q Z

DEVICE=C:\JLASER3.BIN /G H=0 V=0
```

Note *If you are using the Microsoft Bus Mouse with JLaser AT3 or AT4, you must change shunt P6 to connect pins 2 and 3 together, and specify A=640 on the line containing the JLASER3.BIN entry:*

```
DEVICE=C:\JBOOT.BIN /-C -M Q Z

DEVICE=C:\JLASER3.BIN /A=640 G H=0 V=0
```

When installing PagePerfect, you should select option 1, Canon IX-12 using Tall Tree's JLaser Plus, from the second menu that INSTALL displays.

Canon Scanner Model IX-12

(using Canon's scanner interface A200-IX2IF or A200-IX3IF)

There are three different scanner boards that Canon supplies (at extra cost) to interface with their scanner. The original board is a full-length board, called the A200-IX1IF. This interface card does not have the ability to switch between different memory addresses to avoid conflict with other devices, and therefore does not work in a computer with an EGA card (which is required to run PagePerfect). It does, however, have the ability to change I/O addresses.

The A200-IX1IF board was later superseded by the A200-IX2IF, which has the ability to select (using jumpers) the memory addresses it used. The third board is a half-length board called the A200-IX3IF. The third board is fully upward-compatible with the second board, and offers additional memory address configurations that may help resolve hardware conflicts that the original board cannot. However, as of the writing of this manual, the additional settings offered by the A200-IX3IF interface are not supported by the device driver IXHND2.COM that is needed to make the scanner work. You should contact Canon if you

have any questions regarding the availability of any new versions of the driver IXHND2.COM.

Both of these boards retain the ability of the A200-IX1IF to change the I/O addresses used. In most cases, the default setting for the I/O addresses works without modification.

However, the default configuration of the memory address sets used by the A200-IX2IF and A200-IX3IF scanner boards are in conflict with the Enhanced Graphics (EGA) board, and, for that reason, must be altered in order for these scanner boards to work with PagePerfect. These configuration changes can be performed by you, but you may prefer having the dealer who configures your hardware set up the scanner board. In any event, the conflict between the EGA board and these scanner boards may be resolved by changing the memory addresses used by either of the two scanner boards.

The Canon Scanner Manual for the Model IX-12 has a table of jumper settings for each of the legal memory address sets supported by the scanner board A200-IX2IF. The set of addresses you should set the board up for is C400:0000 through C400:0FFF. The address set used is controlled by jumpers JP3 and JP4. These jumpers are located very near the middle of the board. The jumper for JP3 should connect pins 2 and 3, and the jumper for JP4 should connect pins 1 and 2.

The Canon Scanner Manual also describes how the A200-IX3IF can be configured to work with up to sixteen different memory address sets. As mentioned earlier, the driver IXHND2.COM only supports the original four sets that were supported by the A200-IX2IF. When (and if) an IXHND3.COM driver becomes available, the additional memory address settings may be supported. In any event, the memory addresses you should use are the same as those for the

A200-IX2IF, C400:0000—C400:0FFF. The A200-IX3IF has one DIP switch, with six switches on it. The first four of these control the memory address set used by the board.

Switch	Bank
1	ON
2	ON
3	ON
4	OFF
5	default
6	default

Switches 5 and 6 can be left as they were set at the factory (they control the I/O addresses mentioned above). See the Canon Scanner Manual for additional information.

After you have installed one of these boards in your computer, you should boot up your computer and wait for the DOS prompt. At this point, you need to copy over the device driver IXHND2.COM from the floppy disk received from Canon to the root directory of hard disk drive C. Using the DOS copy command, type:

```
C:\>copy a:ixhnd2.com c:\
```

This copies the device driver from the Canon diskette in the A drive over to your hard disk. In order to activate the scanner, type:

C:\>ixhnd2 /01

This installs the device driver that PagePerfect requires to scan in a picture. The /01 option tells the device driver that you have selected a memory address set other than the default, as described above. This command may be placed in your AUTOEXEC.BAT file so that it is performed

automatically every time the computer is booted up (see Appendix A for more information about AUTOEXEC.BAT).

During installation, the second menu that PagePerfect's INSTALL displays allows you to select a scanner. Regardless of which of the two Canon scanner boards you are using, select option 2, Canon IX-12 Scanner with the Canon scanner board.

Ricoh Scanner Model IS-30

In order to make the Ricoh scanner work with PagePerfect, you must first install the scanner interface board that Ricoh supplies with its scanner. Once you have installed this board in your computer, you must install the device driver that PagePerfect accesses when it scans in an image. The device driver is called SCN.COM, and is provided on a diskette supplied by Ricoh. You should copy this file into the root directory of our hard disk by typing:

```
C:\>copy a:scn.com c:\
```

This copies over the device driver into the root directory of your hard disk. Once you have done this, you need to edit a file called CONFIG.SYS to insert a line that loads this device driver every time you turn on your computer. The line you should insert is:

```
DEVICE=SCN.COM
```

This line can be inserted in your CONFIG.SYS file right after the FILES=XX and BUFFERS=XX that PagePerfect's INSTALL program inserted into your CONFIG.SYS file. This entry in your CONFIG.SYS file can be made using any text editor you are familiar with, such as EDLIN or WordStar™ in non-document mode. You can even alter this file using PagePerfect (with

the ASCII stylesheet). For more information on the CONFIG.SYS file, please see Appendix A.

Microtek Scanner Model MS-300A

In order to make the Microtek scanner work with PagePerfect, you must first install the scanner interface board that Microtek supplies with its scanner.

The interface board must be set up to use I/O address 200H, and to use DMA transfer of the scanned image. The MS-PCE scanner board has one switch panel with 8 switches on it. The setting for the switches is as follows:

Switch Bank	
1	ON
2	ON
3	ON
4	ON
5	ON
6	ON
7	OFF
8	ON

You can now place the board in any open slot of you computer. Once you have installed this board in your computer, you must install the device driver that PagePerfect accesses when it scans in an image. The device driver is called SCANNER.EXE, and is provided on a diskette supplied by Microtek. You should copy this file into the root directory of your hard disk by typing:

```
C:\>copy a:scanner.exe c:\
```

This copies over the device driver into the root directory of your hard disk. Once you have done this, you need to edit a

file called AUTOEXEC.BAT to insert a line that loads this device driver every time you turn on your computer. All the line needs to be is:

scanner

The scanner program can also be run from the command line by typing the command:

C:\>scanner

immediately prior to starting up PagePerfect. Using this method, you can conserve approximately 11K of your 640K of memory available to programs other than PagePerfect.

Mouse Support

PagePerfect automatically detects the presence of an IMSI, Mouse Systems, Logitech, Microsoft, or Microsoft-compatible mouse driver. Whether the mouse driver is loaded via an executable program (such as MSMOUSE.COM) or via a device driver (such as MOUSE.SYS), PagePerfect recognizes the device driver. A device driver must be loaded before running PagePerfect; otherwise, PagePerfect will not recognize the mouse. PagePerfect treats mouse movement and mouse button presses as keystrokes, making your mouse an extension of the keyboard. Some mice (like the Microsoft Mouse) have two keys, while other mice (like the IMSI, Mouse Systems, and Logitech) have three buttons. Two-button mice are treated the same way as three-button mice, except that the middle button of the three button mouse is unavailable for use. In other words, the two buttons on a Microsoft mouse are mapped to the first and third buttons on an IMSI optimouse. For more information on how to use a mouse with PagePerfect, see the PagePerfect Reference Guide.

CONCLUSION

Hardware configuration is the most difficult task during the period of time you are familiarizing yourself with the PagePerfect system. Once you have completed this job, the task of installing and learning PagePerfect is relatively easy.

Installation for the IBM PC-AT & Compaq Deskpro

Once you have satisfactorily configured the hardware, the next step is to use the five PagePerfect installation diskettes to install PagePerfect on your computer. This procedure takes 15 to 20 minutes to complete, barring any configuration problems.

RUNNING INSTALL

- Turn on your computer and wait until you see the computer display the DOS prompt for the hard disk, which, in most cases, is drive C.
- Check for sufficient disk space. For 300 DPI printers (Tall Tree System's JLaser or Hewlett-Packard Series II with 1.5 MB of printer memory), approximately 7.4 MB of free disk space is required. For 180 DPI printers (Epson 24-pin printers), 6.6 MB of free disk space is required. For 150 DPI printers (all Hewlett-Packard

printers with less than 1.5 MB of printer memory), 6.3 MB of free disk space is required.

- *Make sure* that no memory-resident programs have been loaded by your AUTOEXEC.BAT file, and that you have not loaded any by hand prior to running INSTALL.

From the root directory of your hard disk (C:\>):

- Type *a:install* and then press Enter.
- INSTALL prompts you to select the printer you will be using with PagePerfect. The four options are:
  - Tall Tree System's JLaser (300 DPI)
  - Hewlett-Packard LaserJet Plus or LaserJet Series II with 512K of printer memory (150 DPI)
  - Hewlett-Packard LaserJet Series II with 1.5 MB (or more) of printer memory (300 DPI)
  - Epson LQ-800, LQ-1000, LQ 1500, LQ-850, LQ-1050, LQ-1500, LQ-2500, and SQ-2000 , or NEC P-Series (180 DPI)
  - Toshiba P-Series (180 DPI)

You must choose one of these four options, even if you are not planning to print on the computer you are installing PagePerfect on. Choose the printer you intend to use to eventually print your documents.

- INSTALL prompts you to select the scanner you will be using with PagePerfect. The four options are:
  - Canon IX-12 using Tall Tree System's JLaser
  - Canon IX-12 using Canon's Scanner Board
  - Ricoh IS-30 using Ricoh's Scanner Board

- Microtek MS-300A using Microtek's Scanner Board

If you are not planning to use a scanner with PagePerfect, press the Esc key. This tells PagePerfect that you will not be scanning inside of PagePerfect.

- The next menu you see is for mouse support. PagePerfect automatically detects the presence of any Microsoft-compatible mouse driver that is present. This question is asked so that the version of DP Graphics that is bundled with PagePerfect can be installed to be used with the keyboard or with the mouse (DP Graphics does not automatically detect the presence of a mouse). The two options are:

  - Keyboard Only
  - Keyboard and Mouse

- The last menu displayed asks about any Enhanced Memory Specification (EMS) memory that you may have installed. This menu is *not* displayed if you selected JLaser as your printing device, since JLaser automatically supplies sufficient EMS memory. In order to edit full-page 300 DPI graphic images, the PagePerfect Version DP Graphics requires that you have at least 684K of EMS memory. If you do not have any EMS memory, the maximum image size you will be able to edit is approximately 4.5 square inches. PagePerfect automatically detects the presence of an EMS driver, but DP Graphics needs to be configured in advance in order for it to use EMS. The two options are:

  - No EMS memory
  - At least 684K of EMS memory

- INSTALL then continues with the installation procedure, prompting you for each disk that is required for the configuration you have selected. Some configurations require that you insert all five PagePerfect diskettes, while others require fewer diskettes. Do not be concerned if you are not prompted for every diskette.

- Once INSTALL has finished copying over all the required files for your configuration, it unarchives (uncompresses) each of the files copied over earlier by INSTALL. This process requires approximately 10 minutes, and requires no user intervention.

- After all files have been extracted from the archives (compressed files), the installation procedure is nearly complete. At this point, INSTALL wants to make changes to your CONFIG.SYS and AUTOEXEC.BAT files. INSTALL asks you if it should perform these changes. INSTALL is very sophisticated in the manner in which it updates these files; all current entries are updated and kept, and an old version of these files is retained in AUTOEXEC.OLD and CONFIG.OLD, should you wish to override any changes made by PagePerfect's INSTALL. Under most circumstances, you should answer *Y* to the questions regarding the alteration of both CONFIG.SYS and AUTOEXEC.BAT.

- Since it is likely that PagePerfect has made changes to CONFIG.SYS and AUTOEXEC.BAT, and these files changes to these files are only noticed by your computer upon start up, INSTALL reboots your computer (after you have pressed any key). Once the computer has finished rebooting, the changes PagePerfect made to your CONFIG.SYS and AUTOEXEC.BAT are in effect, and the installation procedure is completed

RUNNING PAGEPERFECT

Once the installation program INSTALL has completed copying PagePerfect from the installation diskettes onto your computer's hard disk, it is a good idea to reboot your system to make sure that any changes that PagePerfect made to your AUTOEXEC.BAT or CONFIG.SYS files are recognized.

After the computer has rebooted:

- Simply type *pp*, then press Enter.

PagePerfect will come up on the screen. You may now turn to PagePerfect's Tutorial for an introduction to PagePerfect.

Installation for the IBM PS/2

Once you have satisfactorily configured the hardware, the next step is to use the five PagePerfect installation diskettes to install PagePerfect on your computer. This procedure takes 15 to 20 minutes to complete, barring any configuration problems.

RUNNING INSTALL

- Turn on your computer and wait until you see the computer display the DOS prompt for the hard disk, which, in most cases, is drive C.
- Check for sufficient disk space. For 300 DPI printers (Hewlett-Packard Series II with 1.5 MB of printer memory), approximately 7.4 MB of free disk space is required. For 180 DPI printers (Epson 24-pin printers), 6.6 MB of free disk space is required. For 150 DPI printers (all Hewlett-Packard printers with less than 1.5

MB of printer memory), 6.3 MB of free disk space is required.

- MAKE SURE that no memory-resident programs have been loaded by your AUTOEXEC.BAT file, and that you have not loaded any by hand prior to running INSTALL.

From the root directory of your hard disk:

- Type *a:install*, then press Enter.
- INSTALL prompts you to select the printer you will be using with PagePerfect. The three options are:
  - Hewlett-Packard LaserJet Plus or LaserJet Series II with 512K of printer memory (150 DPI)
  - Hewlett-Packard LaserJet Series II with 1.5 MB (or more) of printer memory (300 DPI)
  - Epson LQ-800, LQ-1000, LQ 1500, LQ-850, LQ-1050, LQ-1500, LQ-2500, and SQ-2000 , or NEC P-Series (180 DPI)
  - Toshiba P-Series (180 DPI)

You must choose one of these three options, even if you are not planning to print on the computer you are installing PagePerfect on. Choose the printer you intend to use to eventually print your documents.

- The next menu you see is for mouse support. PagePerfect automatically detects the presence of any Microsoft-compatible mouse driver that is present. This question is asked so that the version of DP Graphics that is bundled with PagePerfect can be installed to be used with the keyboard or with the mouse (DP Graphics does not automatically detect the presence of a mouse). The two options are:

- Keyboard Only
- Keyboard and Mouse

- The last menu displayed asks about any Enhanced Memory Specification (EMS) memory that you may have installed. In order to edit full-page 300 DPI graphic images, DP Graphics requires that you have at least 684K of EMS memory. If you do not have any EMS memory, the maximum image size you will be able to edit is approximately 4.5 inches square. PagePerfect automatically detects the presence of an EMS driver, but DP Graphics needs to be configured in advance in order for it to use EMS. The two options are:

  - No EMS memory
  - At least 684K of EMS memory

- INSTALL then continues with the installation procedure, prompting you for each disk that is required for the configuration you have selected. Some configurations require that you insert all five PagePerfect diskettes, while others require fewer diskettes. Do not be concerned if you are not prompted for every diskette.

- Once INSTALL has finished copying over all the required files for your configuration, it unarchives each of the files copied over earlier by INSTALL. This process requires approximately 10 minutes, and requires no user intervention.

- After all files have been extracted from the archives, the installation procedure is nearly complete. At this point, INSTALL wants to make changes to your CONFIG.SYS and AUTOEXEC.BAT files. INSTALL asks you if it should perform these changes. INSTALL is very sophisticated in the manner in which it updates these files; all current

entries are updated and kept, and the old version of these files is retained in AUTOEXEC.OLD and CONFIG.OLD, should you wish to override any changes made by PagePerfect's INSTALL. Under most circumstances, you should answer *Y* to the questions regarding the alteration of both CONFIG.SYS and AUTOEXEC.BAT.

- Since it is likely that PagePerfect has made changes to CONFIG.SYS and AUTOEXEC.BAT, and these files changes to these files are only noticed by your computer upon start up, INSTALL reboots your computer (after you have pressed any key). Once the computer has finished rebooting, the changes PagePerfect made to your CONFIG.SYS and AUTOEXEC.BAT will be in effect, and the installation procedure completed.

RUNNING PAGEPERFECT

Once the installation program INSTALL has completed copying Pageperfect from the installation diskettes onto your computer's hard disk, it is probably wise to reboot your system to make sure that any changes that PagePerfect made to your AUTOEXEC.BAT or CONFIG.SYS files are recognized.

After the computer has rebooted:

- Simply type *pp*, then press Enter.

PagePerfect will then come up on the screen. You may now turn to PagePerfect's Tutorial for an introduction to Pageperfect.

APPENDIX

A

Description of the AUTOEXEC.BAT and CONFIG.SYS

There are two files that are probably involved in the installation of your hardware. They are called CONFIG.SYS and AUTOEXEC.BAT. A complete description of these files and what they do can be found in your DOS manual. The following is a short description of these files to help you understand the Tips section.

CONFIG.SYS is file that always resides in the root directory of the hard disk that your computer starts up from (which is probably drive C). The operating system looks in the root for CONFIG.SYS and execute any commands that it contains. CONFIG.SYS usually contains references to files that are known as device drivers. Device drivers are files that allow the computer to work with other pieces of hardware such as memory boards and mice. These device drivers are stored on the hard disk as files, and they usually have names that end with .SYS or .BIN. For example, one of the device

drivers that is used by the IMSI Optimouse is called MSMOUSE.SYS. One way to get the mouse to work correctly with your software is to insert the following line in the CONFIG.SYS file:

```
DEVICE = MSMOUSE.SYS
```

DOS does not care about the case of the characters or if there are spaces in the line. The same operation could be accomplished with:

```
device=msmouse.sys
```

Other statements that might be present in your CONFIG file are FILES, BUFFERS, or LASTDRIVE. Refer to your DOS manual for more information.

After the computer loads DOS from the hard disk and executes the commands in CONFIG.SYS, it looks for a file called AUTOEXEC.BAT. The file name is short for AUTOmatic EXECution file. It contains DOS commands that you want to have executed every time that the computer is started up. Common commands that are placed in the AUTOEXEC.BAT are:

```
PATH = C:\DOS

PROMPT = $P$G
```

Any command that you can execute from the DOS prompt can be placed in AUTOEXEC.BAT. Refer to you DOS manual for a more complete description of AUTOEXEC.BAT. Both CONFIG.SYS and AUTOEXEC.BAT can be created or changed using a text editor (like EDLIN, the text editor supplied with DOS) or the common word processors (such as Wordstar in non-document mode), or using PagePerfect with the ASCII.STY stylesheet (more about this in the PagePerfect User's Guide).

APPENDIX

B

Install Messages

The installation program performs a number of checks to verify the hardware/software combination that PagePerfect runs under. During these checks, it is possible that INSTALL did not find everything it expects. This section gives a more detailed explanation of the messages you might see on the screen.

FATAL ERROR: **Could not find install record in INSTALL.DB. Installation halted**

Cause: This error is most likely caused by the file INSTALL.DB in the \PERFECT directory being corrupted in some manner. This file contains information regarding what hardware you are using PagePerfect with. In trying to update this file with the choices you made during

installation, it was unable to find the correct information.

Solution: completely remove *all* of the PagePerfect system (including all subdirectories and any entries PagePerfect's INSTALL program inserted into the CONFIG.SYS and AUTOEXEC.BAT files) and re-run the INSTALL program. If it fails again, you most likely have a set of defective installation diskettes. Contact your dealer to obtain replacement diskettes.

FATAL ERROR: **Could not read install record in INSTALL.DB**

Cause: See above

Solution: See above

FATAL ERROR: **Could not update install record in INSTALL.DB**

Cause: See above

Solution: See above

FATAL ERROR: **Cannot find location of COMMAND.COM in the DOS environment. System lockup probable.**

Cause: PagePerfect's INSTALL program requires that you start up your computer off of a disk drive other than the floppy disk drive A. Under normal circumstances, INSTALL checks the DOS environment space to find out what drive was used to start the system up to make sure it was not drive A. In the process of performing that check, it was unable to find out what drive COMMAND.COM was on, causing the check to fail. Since DOS also looks in the

environment space to find COMMAND.COM when an application program finishes, DOS is also likely to fail soon as well. This is most likely caused by a power surge or other hardware related problem.

Solution: Power down your system and restart. Make sure the system is operating correctly, and then re-run INSTALL.

ERROR: **DOS version 3.0 or later required.**

Cause: The version of DOS you are running is less than 3.0. You can verify this by typing the DOS command VER (short for VERsion) at the DOS prompt. DOS then returns the version number of the DOS that you are using.

Solution: Upgrade to DOS version 3.0 (or greater) by purchasing a copy from your dealer.

ERROR: **You need to install an Enhanced Graphics Adapter (EGA) card. Then run install again.**

Cause: INSTALL performs a software check of the video display board that is present in the system. INSTALL attempts to put the video display board in the EGA display mode that PagePerfect uses, and then checks to make sure the display mode selected was accepted. If not, the board is not considered to be EGA.

Solution: INSTALL an EGA-compatible video display board.

ERROR: **Please delete files to make X,XXX,XXX bytes free. Then run INSTALL again.**

Cause: The hard disk that you selected for PagePerfect installation does not have enough free disk space.

Solution: Using the DOS delete command, you must delete enough unnecessary files to free up X,XXX,XXX bytes. You may have to backup certain parts of your hard disk and delete the files you backed up so that you can install PagePerfect. When you need to use the backup files, you will have to restore them. During the deletion of files, you can see how close you are to having sufficient free space by using the DOS dir command, which displays the amount of free disk space, after listing the files in the current directory.

ERROR: **You need a hard disk drive to install the system. Then, try installation again.**

Cause: PagePerfect requires a Hard Disk Drive and INSTALL was unable to detect one.

Solution: INSTALL a hard disk drive (preferably with 30 MB or more of storage) and the run INSTALL again.

ERROR: **Unable to create CONFIG.SYS. Returning to DOS.**

Cause: INSTALL checks for the presence of a file used by DOS to configure the system called CONFIG.SYS. Not all systems have a CONFIG.SYS, and INSTALL did not detect an existing one. In trying to create one, it failed. This is mostly

likely caused by some problem with the hard disk.

Solution: Verify that the hardware is operating correctly. Then delete all subdirectories created by INSTALL and re-run INSTALL.

ERROR: **Unable to create temporary CONFIG.SYS. Returning to DOS.**

Cause: INSTALL checks for the presence of a file called CONFIG.SYS and was able to find an existing one. When INSTALL detects a CONFIG.SYS file, it copies the contents of that file over to a temporary file, adding and updating certain statements as needed. INSTALL was unable to create the temporary file. This is most likely caused by having a file in the root directory of your C drive called CONFIG.TMP. Since you have a file called CONFIG.TMP, INSTALL is unable to create a new one.

Solution: Delete the file CONFIG.TMP from the root of Hard Disk Drive C. Then delete all the subdirectories that INSTALL may have created before halting because of the error. Then re-run INSTALL.

ERROR: **Unable to create AUTOEXEC.BAT. Returning to DOS.**

Cause: INSTALL checks for the presence of a file used by DOS to configure the system called AUTOEXEC.BAT. Not all systems have a AUTOEXEC.BAT and INSTALL did not detect an existing one. In trying to create one, it failed.

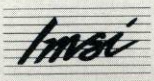
This is mostly likely caused by some problem with the hard disk.

Solution: Verify that the hardware is operating correctly. Then delete all subdirectories created by INSTALL and re-run INSTALL.

ERROR: **Unable to create temporary AUTOEXEC.BAT. Returning to DOS.**

Cause: INSTALL checks for the presence of a file called AUTOEXEC.BAT and was able to find an existing one. When INSTALL detects a AUTOEXEC.BAT file, it copies the contents of that file over to a temporary file, adding and updating certain statements as needed. INSTALL was unable to create the temporary file. This is most likely caused by having a file in the root directory of your C drive called AUTOEXEC.TMP. Since you have a file called AUTOEXEC.TMP, INSTALL is unable to create a new one.

Solution: Delete the file AUTOEXEC.TMP from the root of Hard Disk Drive C. Then delete all the subdirectories that INSTALL may have created before halting because of the error. Then re-run INSTALL.


Imsi